

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING TRANSMITTAL OF COPY OF INTERNATIONAL APPLICATION AS PUBLISHED OR REPUBLISHED To:

OLDENKAMP, David, J. Shapiro & Dupont LLP 233 Wilshire Boulevard Suite 700 Santa Monica, CA 90401 FTATS-UNIS D'AMERIOUI

		ETATS-UNIS D'AMERIQUE			
Date of mailing (day/month/year) 22 September 2005 (22.09.2005)					
Applicant's or agent's file reference 0180.0064		IMPORTANT NOTICE			
International application No. PCT/US2004/040368 International filing da 01 December 2		tte (day/month/year) 2004 (01.12.2004)	Priority date (day/month/year) 03 December 2003 (03.12.2003)		
Applicant THE REG	SENTS OF THE UNIV	/ERSITY OF CALIFORN	IIA et al		
The International Bureau transmits herewith the	following documents:	· · · · · · · · · · · · · · · · · · ·			
copy of the international application a No. W() 2005/086627	as published by the Inte	mational Bureau on 22 Sept	ember 2005 (22.09.2005) under		
copy of international application as re No. WO For an explanation as to the reason fo or (88) (as the case may be) on the from	r this republication of the	ne international application,	reference is made to INID codes (15), (48)		
			BEIME		
			SEP 2 7 2005		
		·	ENTERED		

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland

Authorized officer

Dorothée Mülhausen

#65988

Facsimile No.+41 22 338 87 40

Facsimile No.+41 22 740 14 35 Form PCT/IB/311 (January 2004)

• 1

1

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING TRANSMITTAL OF COPY OF INTERNATIONAL APPLICATION AS PUBLISHED OR REPUBLISHED To:

DALEY, Henry, J. Venable LLP P.O. Box 34385 Washington, DC 20043-9998

		ETATS-UNIS D'A	MERIQUE .			
Date of mailing (day/month/year) 09 March 2006 (09.03.2006)						
Applicant's or agent's file reference 58086-224023		IMPORTANT NOTICE				
International application No. PCT/US2004/040368	International filing date (day/month/year) 01 December 2004 (01.12.2004)		Priority date (day/month/year) 03 December 2003 (03.12.2003)			
Applicant THE REGENTS OF THE UNIVERSITY OF CALIFORNIA et al						
The International Bureau transmits herewith the following documents:						
copy of the international application as published by the International Bureau on under No. WO						

copy of international application as republished by the International Bureau on 09 March 2006 (09.03.2006) under

or (88) (as the case may be) on the front page of the attached document.

For an explanation as to the reason for this republication of the international application, reference is made to INID codes (15), (48)

MPUTER UPDATE 311716

No. WO 2005/086627

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland

Authorized officer

Dorothée Mülhausen

VENABLE IT BOCKETING DEPARTMENT

Facsimile No.+41 22 338 87 40

Facsimile No.+41 22 740 14 35

BEST AVAILABLE COPY

(43) International Publication Date 22 September 2005 (22.09.2005)

PCT

(10) International Publication Number WO 2005/086627 A3

- (51) International Patent Classification⁷: H04N 15/00
 - Classification': H01L 33/00,
- (21) International Application Number:

PCT/US2004/040368

(22) International Filing Date:

1 December 2004 (01.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/527,041

3 December 2003 (03.12.2003) US

(71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th Floor, Oakland, CA 94607-5200 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): YANG, Yang [US/US]; 13730 Bayliss Road, Los Angeles, CA 90095 (US). MA, Liping [CN/US]; 3290 Sawtelle Boulevard #203, Los Angeles, CA 90066 (US). HE, Jun [CN/CN]; Fudan University, Shanghai (CN).

(74) Agents: DALEY, Henry, J. et al.; Venable LLP, P.O. Box 34385, Washington, DC 20043-9998 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

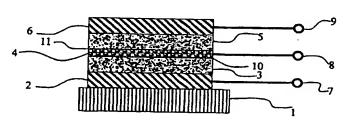
Published:

with international search report

(88) Date of publication of the international search report: 9 March 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: THREE-TERMINAL ELECTRICAL BISTABLE DEVICES



NC NH₂

(57) Abstract: A three terminal electrical bistable device that includes a tri-layer composed of an electrically conductive mixed layer sandwiched between two layers of low conductivity organic material that is interposed between a top electrode and a bottom electrode. The conducting mixed layer serves as the middle electrode. The device includes two memory cells composed of electrode/organic layer/mixed layer, where the interfaces between the electrically conductive mixed layer and the low conductivity organic layer exhibit bistable behavior.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/40368

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : H01L 33/00; H04N 15/00							
US CL	: 257/88; 345/97, 81, 204, 206						
According to International Patent Classification (IPC) or to both national classification and IPC							
B. FIELDS SEARCHED							
Minimum documentation searched (classification system followed by classification symbols) U.S.: 257/88; 345/97, 81, 204, 206							
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched							
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST							
	UMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where	appropriate, of	the relevant passages	Relevant to claim No.			
х	US 6,600,473 (Kobayashi et al.) 29 July 2003 (29.07.2003) figs. 1 - 6; column 6, lines 40 - 67; column 7, lines 49 - 57; column 8, lines 18 - 29 and lines 41 - 64; column 12, lines 34 - 67; column 13, lines 1 - 65; column 15, lines 6 - 67)						
Y 	US 4,507,672 (Potember et al.) 26 March 1985 (20	1 - 16					
Y	US 2002/0031602 A1 (Zhang) 14 March 2002 (14. [0028], [0062] and [0069]	1 - 11					
	·						
	·						
Further	documents are listed in the continuation of Box C.	See	patent family annex.				
	secial categories of cited documents:		r document published after the interr and not in conflict with the applicat				
	defining the general state of the art which is not considered to be ar relevance	prin	ciple or theory underlying the inven	tion			
•	olication or patent published on or after the international filing date	cons	ument of particular relevance; the cla sidered novel or cannot be considere on the document is taken alone				
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		-Y- docu	ument of particular relevance; the cla sidered to involve an inventive step we bined with one or more other such d	when the document is			
O document referring to an oral disclosure, use, exhibition or other means		bein	g obvious to a person skilled in the	iri			
P document priority da	published prior to the international filing date but later than the te claimed	-&- document member of the same patent family					
Date of the actual completion of the international search Date of mailing of the international search report R NOV 2005							
	05 (20.10.2005) ling address of the ISA/US	Authorized off	Ficer 12 has to	2.00			
Mail	Stop PCT, Attn: ISA/US		ficer Rhemila fac	لعمدن			
	missioner for Patents Box 1450	Long Tran					
Alexa	Alexandria, Virginia 22313-1450 Alexandria, Virginia 22313-1450 Telephone No. 571-272-1797 acsimile No. (703) 305-3230						
	(100) 203 2430						